

**SITE REASSESSMENT
BURLINGTON INDUSTRIES CHERAW
SCN 000 404 896
CHERAW, SOUTH CAROLINA
CHESTERFIELD COUNTY**

Prepared for:



**U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
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Atlanta, Georgia 30303**

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1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Federal and State Site Assessment Section, South Carolina Department of Health and Environmental Control (DHEC) has conducted a Site Reassessment (RA) for the Burlington Industries Cheraw site (the Site) in Chesterfield County, South Carolina. The information gathered from this investigation will be used to decide future CERCLA activity at the site.

2.0 LOCATION

The site is located at 650 Chesterfield Highway within the city limits of Cheraw, in Chesterfield County. The site encompasses an approximate 50-acre parcel with a large manufacturing complex (now owned and operated as Highland Industries), and multiple residential lots to the north and northwest (developed and vacant) where former sludge drying beds were located. When Burlington Industries originally built the plant in the late 1950's, these lots were part of the plant property (Ref. 5). The geographic coordinates of the Site are 34.695531° N, - 79.913499° W (Appendix B).

3.0 OWNERSHIP

Manufacturing Facility:

1988- present
Highland Industries
Takata Corporation of Japan (Parent Company)
650 Chesterfield Hwy
Cheraw, SC 29520

Opened 1961 by Burlington Industries, also known as James Fabric Plant

(Ref. 5)

4.0 SITE HISTORY / DESCRIPTION

In October 2015, the SCDHEC Site Assessment section was contacted by a resident that had reason to believe that some sort of wastewater unit had been historically located on his property and/or an adjacent vacant lot. SCDHEC conducted an Expanded Pre-CERCLIS Site Assessment (XPSA) in May 2016. Research during the XPSA concluded that there had been sludge drying beds located on at least one (now vacant) residential lot. Sampling for the XPSA found elevated levels of PCBs (Aroclor 1248) in the vacant residential lot and the adjacent drainage ditch, which originates on the manufacturing property (Ref. 3,4).

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The SCDHEC Superfund State Remedial group began a sampling effort in late August 2016 to further characterize the site. Between August and November 2016 SCDHEC collected several hundred samples from the manufacturing facility, residential yards and along the surface water pathway leading from the former Burlington Industries site. Elevated PCBs (Aroclors 1248 & 1254) were found in numerous residential yards near the facility and in sediments flood plain soils along the surface water pathway for several miles (Ref. 7,8,9). This Reassessment is focused on sampling and delineation of wetlands along the upper surface water pathway.

5.0 PATHWAY EVALUATION

5.1 GROUNDWATER MIGRATION PATHWAY

The Town of Cheraw municipal water system provides drinking water to the area surrounding the site, sourced from an up-gradient location on the Great Pee Dee River (Ref. 2). There are no known drinking water wells within 1/4-mile of the site, and due to the presence of public water lines in the area it is unlikely that any wells are located within 1 mile (Ref. 1, 4). Based on the limited groundwater use in the area, the groundwater pathway was not evaluated further for this report.

5.2 SURFACE WATER MIGRATION PATHWAY

Regional Characteristics Targets

The site lies within the Pee Dee River sub-basin (Ref. 6). A small drainage ditch that begins on Highland Industries property flows between residential lots in a northerly direction approximately 1,000 feet to meet a perennial easterly-flowing creek. This unnamed creek flows approximately one mile to the east to meet Wilson Branch (Ref. 1). Wilson Branch flows in a northeasterly direction for 1/2-mile to meet Huckleberry Branch. Huckleberry Branch flows 1.5 miles east southeasterly to reach the Great Pee Dee River. The 15-mile target distance limit for purposes of this report ends approximately 12 miles downstream in the Great Pee Dee River near Bennettsville (Ref. 1). There are several ponds located along the surface water pathway near the intersection of Wilson Branch. See Figure 1 for an overview of the surface water pathway.

Wetlands

The principal focus of this Reassessment was to delineate and sample wetland areas along the unnamed creek upstream of Wilson Branch. As shown Figure 2, US Fish & Wildlife Service National Wetlands Inventory maps show a large (PF01Bd) wetland area along the unnamed creek north northwest of Long Middle School and a small isolated wetland near the ditch leading from the former Burlington Industries site along the unnamed creek (Ref. 10). Field verification delineation by SCDHEC of these areas determined the extent of wetlands as shown in Figure 3 (Ref. 11). The wetlands frontage delineated is estimated to be 672 feet (Ref. 1,11). Sediment samples were collected from wetland areas along the unnamed stream from a location near the Edgewood Drive Funderburk Drive intersection to Jersey Street (see Figure 4). Wetland background samples for comparison were collected from an unnamed tributary of Huckleberry Branch and Huckleberry Branch upstream of its confluence with Wilson Branch (see Figure 5).

Significant elevations of Aroclors 1248 and 1254 were detected in all samples collected from this stretch of stream and associated wetlands (Ref. 13). See Table 1 below for Aroclor wetlands detections:

Table 1

Burlington Cheraw Wetlands Aroclor Detections			
samples collected 2/17/17 & 3/2/17			
see Figures 4 & 5 for sample locations			
all results in ug/kg (ppb)		Aroclor 1248	Aroclor 1254
BACKGROUND SAMPLES	BIC-201-SD	ND (13)	ND (13)
	BIC-202-SD	ND (15)	ND (15)
	BIC-203-SD	ND (14)	ND (14)
	BIC-204-SD	ND (13)	ND (13)
Unnamed Stream Upstream of Wetland Area	BIC-101-SD	320,000	120,000
	BIC-102-SD	41,000	22,000
DELINEATED WETLAND AREA	BIC-103-SD	9,600	6,800
	BIC-104-SD	11,000	8,900
	BIC-105-SD	7,100	3,400
	BIC-106-SD	4,200 P	2,000
	BIC-107-SD	22,000	9,200
	BIC-108-SD	10,000	4,600 P
Notes:			
P - Relative Percent Difference (RPD) between two GC columns exceeds 40%			
ND - Not detected at or above the PQL (PQL)			

(Ref. 13)

Fisheries / Resources

Fishing is likely to occur in the ponds east of the site as well as Wilson Branch, Huckleberry Branch, and the Great Pee Dee River (Ref. 1, 6). A town park is located along this creek beyond the ponds with obvious recreational use of the creek for wading/playing (Ref. 7).

5.3 SOIL EXPOSURE / AIR PATHWAYS

Significant PCB contamination has been documented on residential properties both near the site and also along the surface water pathway (contaminated via flooding). A Removal Action is currently in progress at the site by USEPA Region 4 Emergency Response, Removal, and Prevention Branch, to date focusing on residential yards nearest the facility.

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6.0 SUMMARY / CONCLUSIONS

The Burlington Industries Cheraw site was initially a citizen complaint to SCDHEC questioning whether wastewater units had been located on what is now residential property. Multiple rounds of sampling have found elevated levels of PCBs in numerous residential yards near the site and along the surface water pathway. Also, sediments within the surface water pathway and flood zone have shown elevated PCBs for several miles downstream. This investigation delineated a wetlands area along an unnamed stream near the site and confirmed similar PCB elevations within the wetlands.

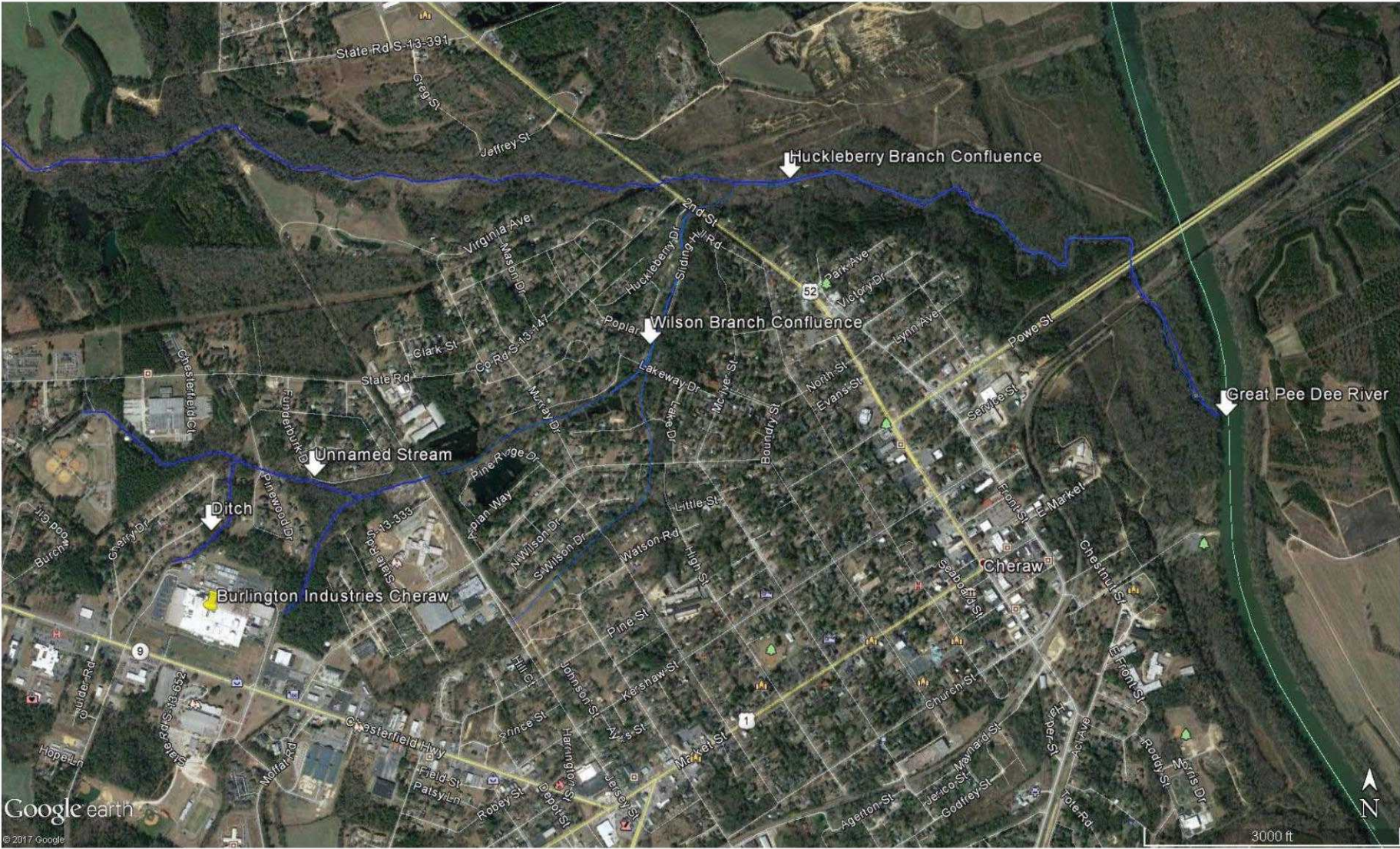
The data generated as part of this investigation will be used in the Hazard Ranking System documentation package for potential placement on the National Priorities List (NPL).

7.0 REFERENCES

1. Google Earth Professional. Last accessed August 2017.
2. SCDHEC, Environmental Facility Information System (EFIS). Last accessed August 2017.
3. USEPA Region 4 Science and Ecosystem Support Division. Final Analytical Report for Burlington Industries Cheraw former Lagoon. VOAs - March 21, 2016, OCP/PCB – March 31, 2016, Metals – April 4, 2016, SVOA - April 8, 2016.
4. SCDHEC Site Assessment Section: Jonathan McInnis, Project Manager. Trip Report for Burlington Industries Cheraw former Lagoon XPSA, February 26, 2016.
5. Chesterfield County Online Tax Assessor: last accessed March 24, 2016.
<http://www.chesterfieldcountysc.com/services/OnlineAssesor/default.aspx>
6. SC Department of Natural Resources. South Carolina State Water Assessment. 2009.
<http://www.dnr.sc.gov/water/hydro/HydroPubs/assessment.htm> Last accessed August 2017.
7. Field Notes from SCDHEC State Remediation Section Second Phase Investigation at Burlington Industries Cheraw. September 20, 2016. Available at SCDHEC.
8. Analytical Data from SCDHEC State Remediation Investigation at Burlington Industries Cheraw. August 2016.
9. synTerra. Sediment and Soil Sampling and Analysis Workplan for SCDHEC Site Remediation Investigation at Burlington Industries Cheraw. August 2016.
10. US Fish & wildlife Service. National Wetlands Inventory Wetlands Mapper.
<https://www.fws.gov/wetlands/data/mapper.html> Accessed August 2017.
11. William R. “Rusty” Wenerick, SCDHEC Memo to Jonathan G McInnis, SCDHEC concerning the wetland boundaries below Burlington Industries Cheraw. Undated (received March 2017).
12. William R. “Rusty” Wenerick, SCDHEC. Project Note – Supplemental Information on March 2017 Wetlands Delineation below Burlington Industries Cheraw. July 25, 2017.
13. Shealy Environmental Services, Inc. Report of Analysis – Burlington Industries Cheraw sampling from 2/16/17 and 3/2/17.

APPENDIX A: MAPS / FIGURES

Figure 1 - Surface Water Pathway to Great Pee Dee River



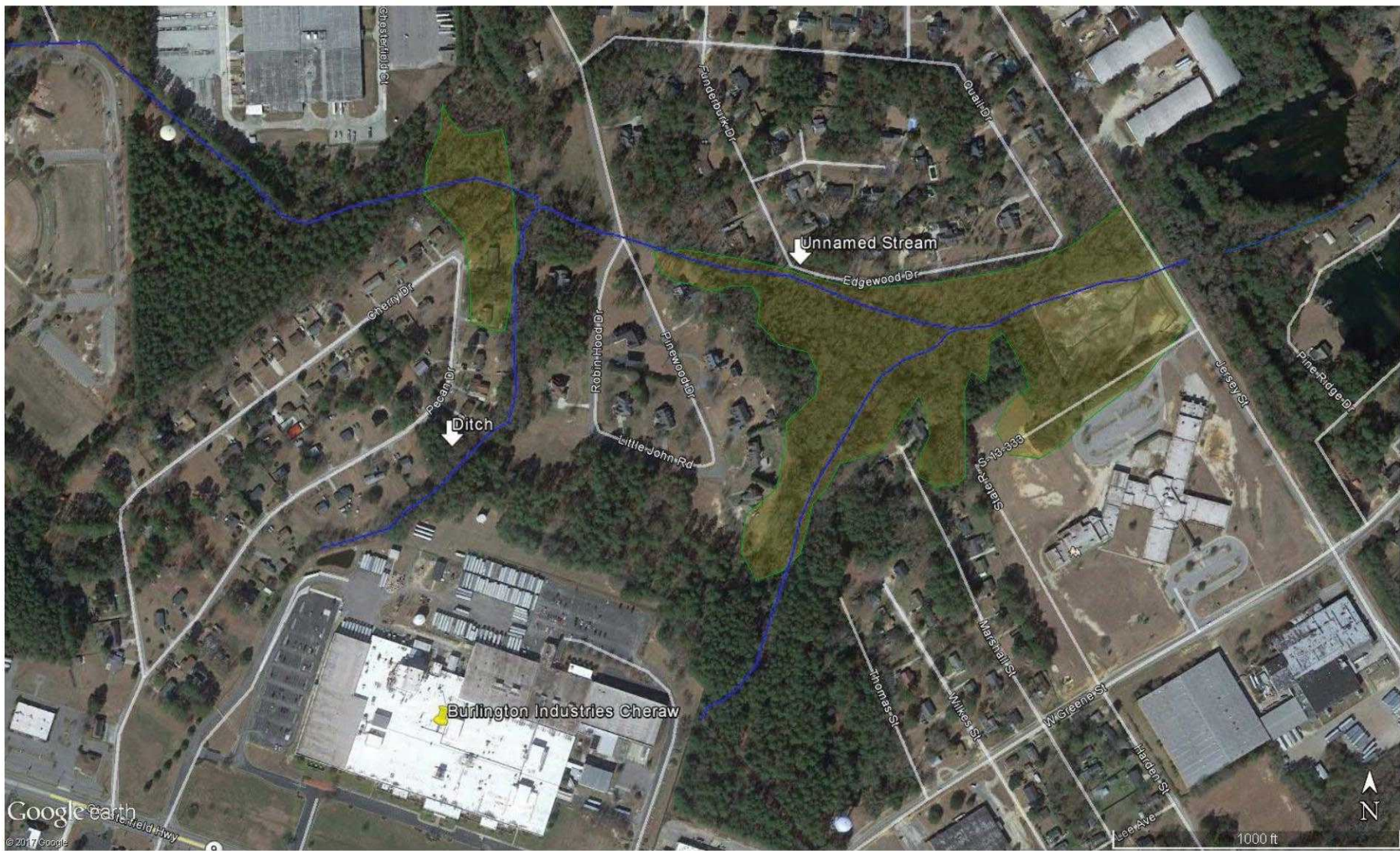


Figure 3 – SCDHEC Delineated Wetlands near Burlington Industries Cheraw (green shaded polygon)

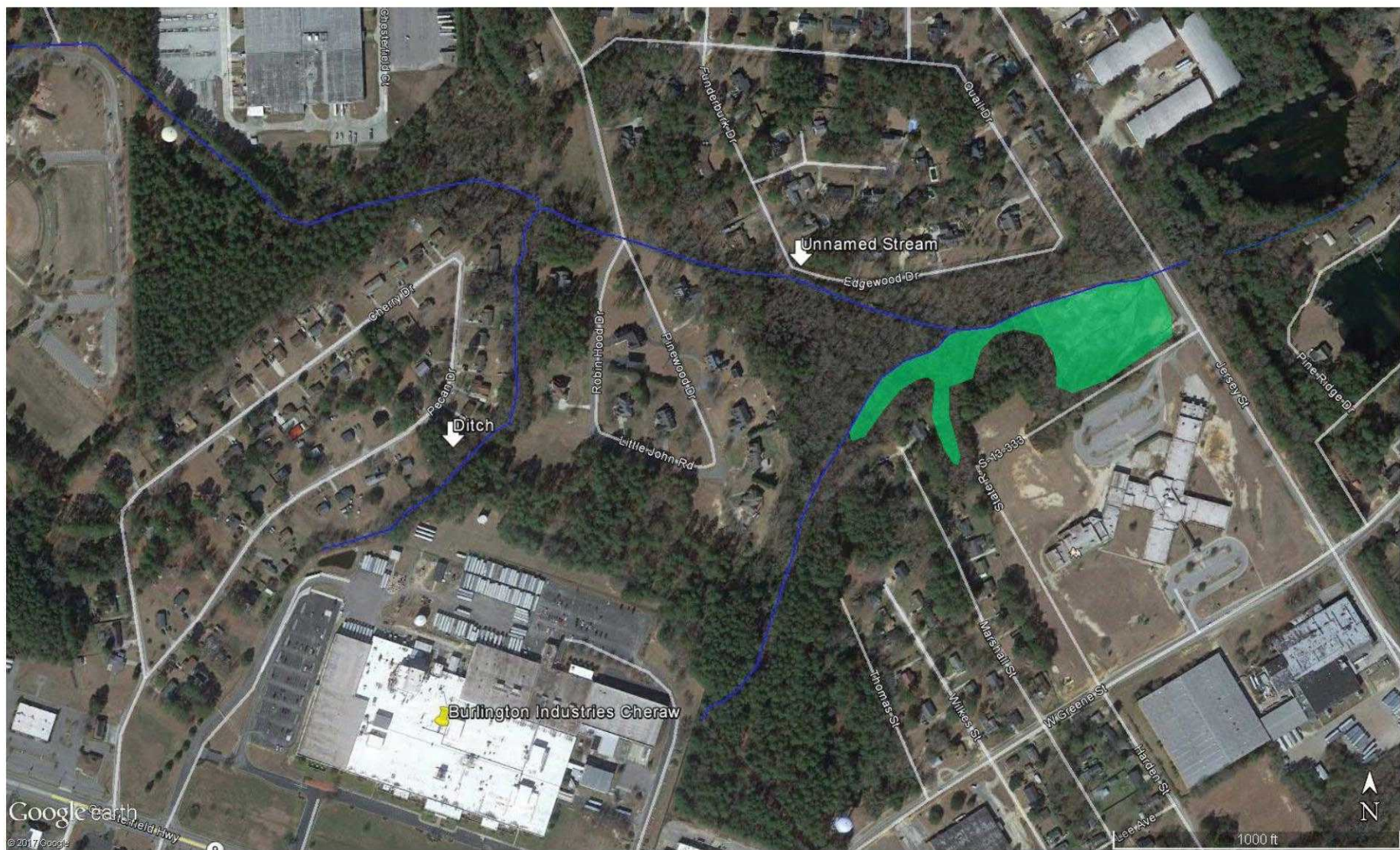


Figure 4 : SCDHEC Wetlands Sampling February/March 2017

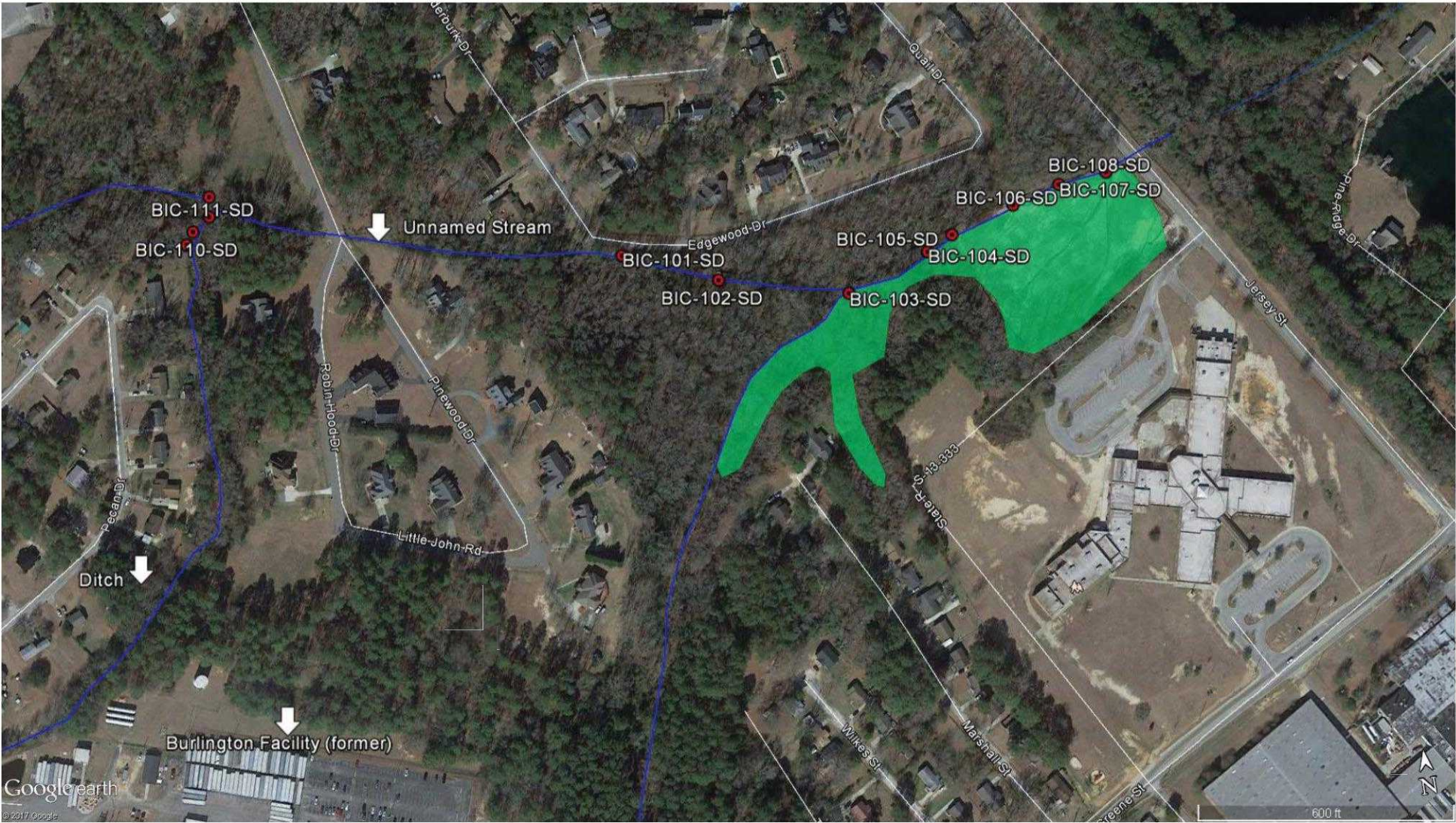
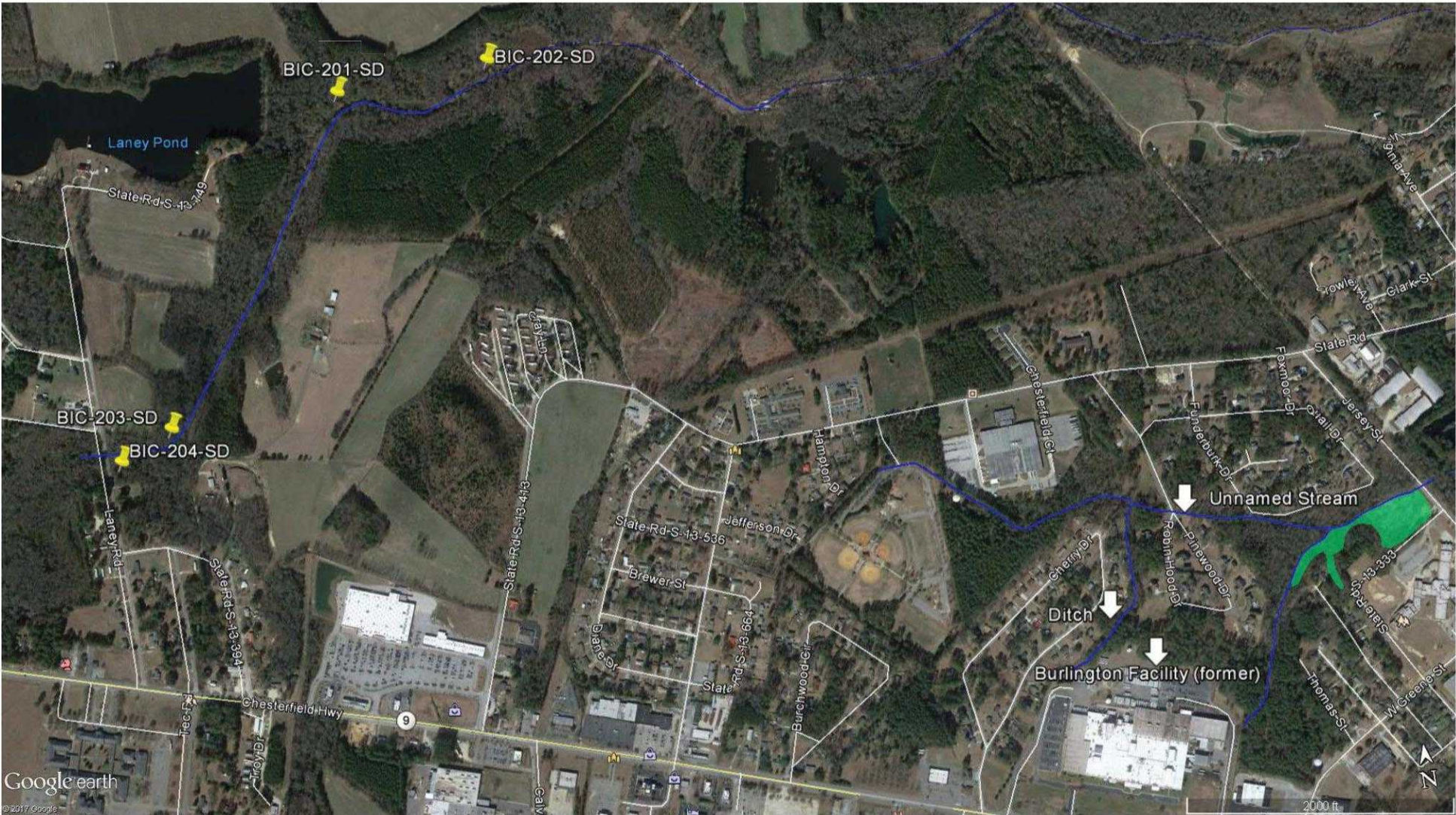


Figure 5: SCDHEC Background Wetlands Sampling March 2017



APPENDIX B: SITE COORDINATE COLLECTION

Site Latitude: 34.695531° N
Site Longitude: -79.913499° W
Feature Description: approximate manufacturing facility front door

Collection Date: March 1, 2016

Note: Site Coordinates collected by photo interpretation in Google Earth (estimated accuracy ~20 meters).

APPENDIX C: ATTACHED REFERENCES